

S/N 10/791,305

Page 2

ESKO-038US

AMENDMENT(S) TO THE SPECIFICATION:**Kindly replace paragraph number [0008] on page 2 as follows:**

[0008] FIG. 2 shows a prior art CTP imaging system that is described in U.S. Patent 6,341,932 to Otsuji titled PLATE FEEDING APPARATUS AND METHOD, incorporated herein by reference, and referred to herein as the "Otsuji system." The Otsuji system comprises a plate feeding apparatus 2 that includes a multiple cassette station 5 having a plurality of cassettes 7 arranged one over the other, each cassette holding a stack of plates. The Otsuji system also comprises a loader 6 that includes a slide mechanism for horizontally moving a particular one of the plurality of cassettes from the stack to the loader and a lift mechanism for supporting and vertically moving the particular cassette 7 to a plate feed position. A transport mechanism in ~~loader~~ loader 6 transports a plate from the particular cassette to the image recording apparatus (imager) after the particular cassette is at the plate feed position. The imager is not shown in FIG. 2, but is behind the two mechanisms 5 and 6 so that feeding a plate ~~involved~~ involves moving a plate into the plane of the page. The loader 6 includes a slip sheet discharge mechanism that picks up and discharges slip sheets each disposed between an adjacent pair of the plates in the particular cassette 7 at the feed position.

Kindly replace paragraph number [0009] starting on page 2 as follows:

[0009] FIG. 3 is taken from U.S. Patent 5,738,014 to Rombult, et al. titled *METHOD AND APPARATUS FOR MAKING LITHOGRAPHIC PRINTING PLATES IN AN AUTOMATED COMPUTER TO PLATE IMAGING SYSTEM*, and incorporated herein by reference. ~~FIG. 6~~ FIG. 3 shows a CTP imaging system 16, referred to herein as the "Rombult system" that includes a plate handler 18 that contains a supply of plate cassettes 24. The handler 18 can hold as few as two cassettes or as many as three, four, or five depending on user requirements. Each cassette 24 is a light tight container that houses a stack of plates 26, typically lithographic plates. The cassettes 24 can be vertically adjusted by the handler 18 to make plates 26 stored within a particular cassette available to a plate shuttle mechanism (a plate picker 28). The picker 28 removes a single plate from the stack in the selected cassette and transports the plate

S/N 10/791,305

Page 3

ESKO-038US

between the handler 18 and an imager 20. The primary function of the handler 18 is to make plates available on demand to the imager 20. Between each plate in a stack there may be a protective interleaf sheet or slip sheet that is removed by the handler and discarded by a slip sheet removal mechanism 25. The Rombult system 16 includes an optional on-line plate processor and stacker to process the plates after exposure by the imager 20. The Rombult system 16 is controlled by a controller 30.

Kindly replace paragraph number [0014] on page 4 as follows:

[0014] Described herein are a method and apparatus to aid the loading and unloading of flexographic plates to and from an imager. The apparatus includes a magazine containing a plurality of compartments each for holding a single flexographic plate, the compartments arranged vertically, and movable in a vertical direction, a lifting mechanism to lift and lower the compartments; and a control system to control the lifting and lowering by the lifting mechanism. The control system is such that a particular compartment is moved from its rest vertical position at a rest horizontal position to a loading vertical position at which the particular ~~compartment~~ compartment is at a height for loading onto the imager.

Kindly replace paragraph number [0033] on page 6 as follows:

[0033] One embodiment of the imager 101 includes a rotatable drum for loading a flexographic plate thereon. A door mechanism 107 provides access to the drum for loading and unloading and is closed during imaging. In order to show the drum in FIG. 1, the door mechanism 107 is shown removed from its proper location as indicated by the dashed lines. One embodiment of the door mechanism includes a first door part 121 and a second door part 123 hinged to each other by hinge 125. The two door parts 121 and 123 further include hinges not shown so as not to obscure the inventive aspects. The imager 101 includes a laser source (or several laser sources) that provides one or more laser beams modulated by imaging data, e.g., sets of data for each of a plurality of color separations for exposing the respective plates for a color print. The laser(s) is/are suitable for exposing CTP flexographic plates, e.g., is/are matched in energy and wavelength to the particular type of LAMS coating on the flexographic

S/N 10/791,305

Page 4

ESKO-038US

plates. An example of one such flexographic imager 101 is the Esko-Graphics Cyrel® Digital Imager (Esko-Graphics, Gent, Belgium) made by Esko-Graphics, the assignee of the present invention.

Kindly replace paragraph number [0043] starting on page 8 as follows:

[0043] At the same time as the compartment moves horizontally, as shown in FIG. 4D, door part 121 of door 107 opens to allow the flexographic plate to be loaded onto the drum 103. FIG. 4E shows the start of the loading of the plate 119 onto the drum 103 of the imager 101, in one embodiment using a clamping mechanism on the drum 103. The moving of the flexographic plate from the compartment 113 at a loading area 105 to the drum is carried out manually by an operator. The plate 119 is now wrapped around the drum and the door 107 closed. FIG. 4F shows the system during the operation of the imager at which time the plate 119 is imaged according to imaging data. After the imaging, the door 107 is opened to allow for unloading of the plate. FIG. 4G shows the plate being unloaded back onto the ~~compartment 119~~ compartment 113. Once the imaged flexographic plate 119 is back in its compartment 113, FIG. 4H shows the compartment moving horizontally from the loading horizontal position to rest horizontal position at the loading vertical position. Note that the next plate to be imaged is the plate 131 in compartment 114. FIG. 4I shows the lifting mechanism ~~402~~ 104 moving the compartment 113 from the loading vertical position to the compartment's imaged vertical position, which in this embodiment is the topmost position for the compartment. In other embodiments, this may be the bottom vertical position. The loading of plate 131 in compartment 114 now commences. FIG. 4J shows the lifting mechanism ~~402~~ 104 lifting compartment 114 from its rest vertical position to the loading vertical position. The loading and imaging and unloading of the next plate 131 proceeds as described above for the first plate 119.

Kindly replace paragraph number [0051] on page 11 as follows:

[0051] FIG. 6 shows a simplified side view of the magazine and imager 101. When the frame 511 supporting the magazine of compartments is at the docked position, the control system 504 is designed to move the magazine using the lifting mechanism 502

S/N 10/791,305

Page 5

ESKO-038US

such that a selected compartment is at the loading vertical position adjacent to the loading area 105 of the imager 101. The ~~guide~~ docking posts 525 include a groove 535 and provides a guiding mechanism for the docking section 527 to aid in guiding the magazine during its up or down motion. When the selected compartment, shown as compartment 517 is at its loading vertical position, the compartment is horizontally movable back and forth from the rest horizontal position to a loading horizontal position flush with a loading area 105. Then the selected compartment is at the loading horizontal position, an operator moves the flexographic plate 533 in the compartment and attaches it to the drum 103, in one embodiment using a clamping mechanism on the drum shown as 540 in FIG. 6. The unimaged flexographic plate is now wrapped around the drum, and the door 107 (not shown in FIG. 6) is closed. The plate is now imaged. After imaging, the imager's door is opened, the imaged plate is unwrapped and unclamped and moved back onto the compartment 517 by the operator. The compartment now is moved from the loading horizontal position to the rest horizontal position and the magazine moved under control of the control system 502 until another desired compartment is at its loading vertical position so that it can be horizontally moved to the loading horizontal position.

Kindly replace paragraph number [0052] on page 12 as follows:

[0052] The motor driven horizontal movement mechanism is now described in more detail. FIG. 7 shows a simplified top view showing one of the compartments in horizontal motion between the rest horizontal position and the loading horizontal position. FIG. 7 will be explained for the embodiment shown in FIGs. 5 and 6, and is equally applicable to the embodiment shown in FIGs. 1 and 4A-4J. The horizontal movement mechanism includes a chain drive system having a pair of rotatable sprockets 705 mechanically coupled to cooperate with a chain 703 and transmit rotary motion of the sprockets 705 into linear motion of the chains 703. A motor 707 rotates the sprockets 705 under control of the control system 502. The compartment includes a pin 701 located such that when the compartment is at the rest horizontal position and moved to the loading vertical position, the pin sits in a U-shaped brace 709 that is attached to the chain 703 so that when the sprockets rotate, the U ~~shapes~~ shaped brace

S/N 10/791,305

Page 6

ESKO-038US

and thus the compartment moves horizontally from the rest horizontal position to the loading horizontal position.

Kindly replace paragraph number [0055] on page 12 as follows:

[0055] It should be noted that the drawings are not to scale. In particular, in one embodiment, when the plate is at the horizontal loading position, the majority of the compartment ~~if away~~ is away from the frame of the magazine, up to 80% in one version. To support the horizontal motion of the part that is outside the frame, in one embodiment, the loading area 105 of the imager includes a set of a set of wheels or rollers 725 in a set of supports, e.g., set of rails 723 located such that part of the compartment can roll on top of the wheels when the compartment part is on top of area 105.

Kindly replace paragraph number [0060] on page 14 as follows:

[0060] In one embodiment, each compartment has a vertical imaged position which is on the top of the magazine. The magazine includes a locking mechanism to lock a compartment in its imaged vertical position. In one embodiment, the locking mechanism includes U-shaped braces 921 attached to the frame by members 925. The braces have an engaged position whereby a corresponding compartment is locked, and an unengaged position. In one embodiment, the engaging and unengaging is by rotating the U-shaped brace so that it ~~when~~ when engaged, a brace holds the pin 901 of its respective compartment to lock the compartment at the imaged vertical position. The braces for only two imaged vertical positions are shown in FIG. 9.